Chart and Graphs used in Business

CHART COMPONENTS

SS2 2.02 Understand charts and graphs used in business.

Purpose of Charts and Graphs

1. **Charts** and **graphs** are used in business to **communicate** and **clarify spreadsheet information.**
2. **Charts** and **graphs** emphasize and categorize spreadsheet information into a format that can be quickly and easily analyzed.

3. Why might you use a **chart** to present **spreadsheet information?**

   A chart makes the information easier to understand.

4. What does a **chart or graph** do that a spreadsheet does not?

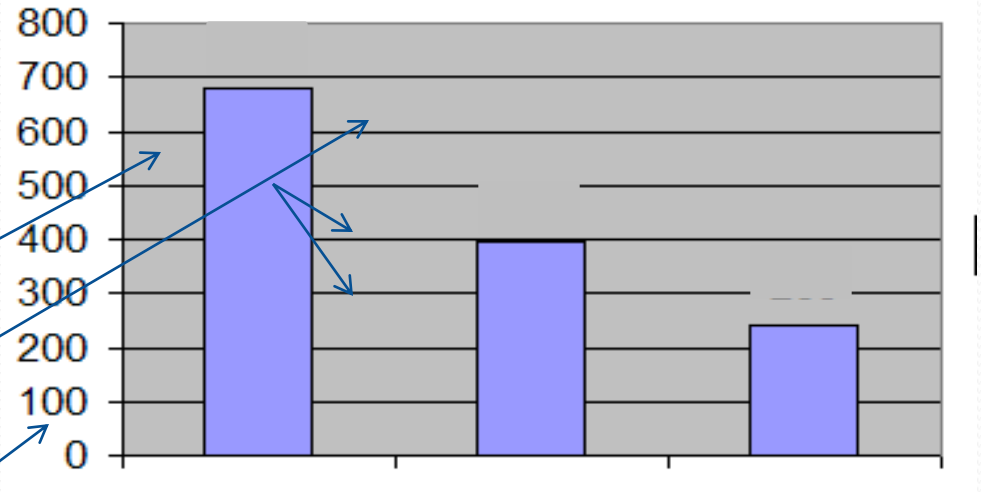
   Creates a visual representation of the data.

Is it a **Chart** or a **Graph**?

A Graph is a feature of a chart used to plot data.

- **A Graph is a pictorial representation of data.**

- **It includes the:**
  - **plot area**
  - **gridlines**
  - **and values.**



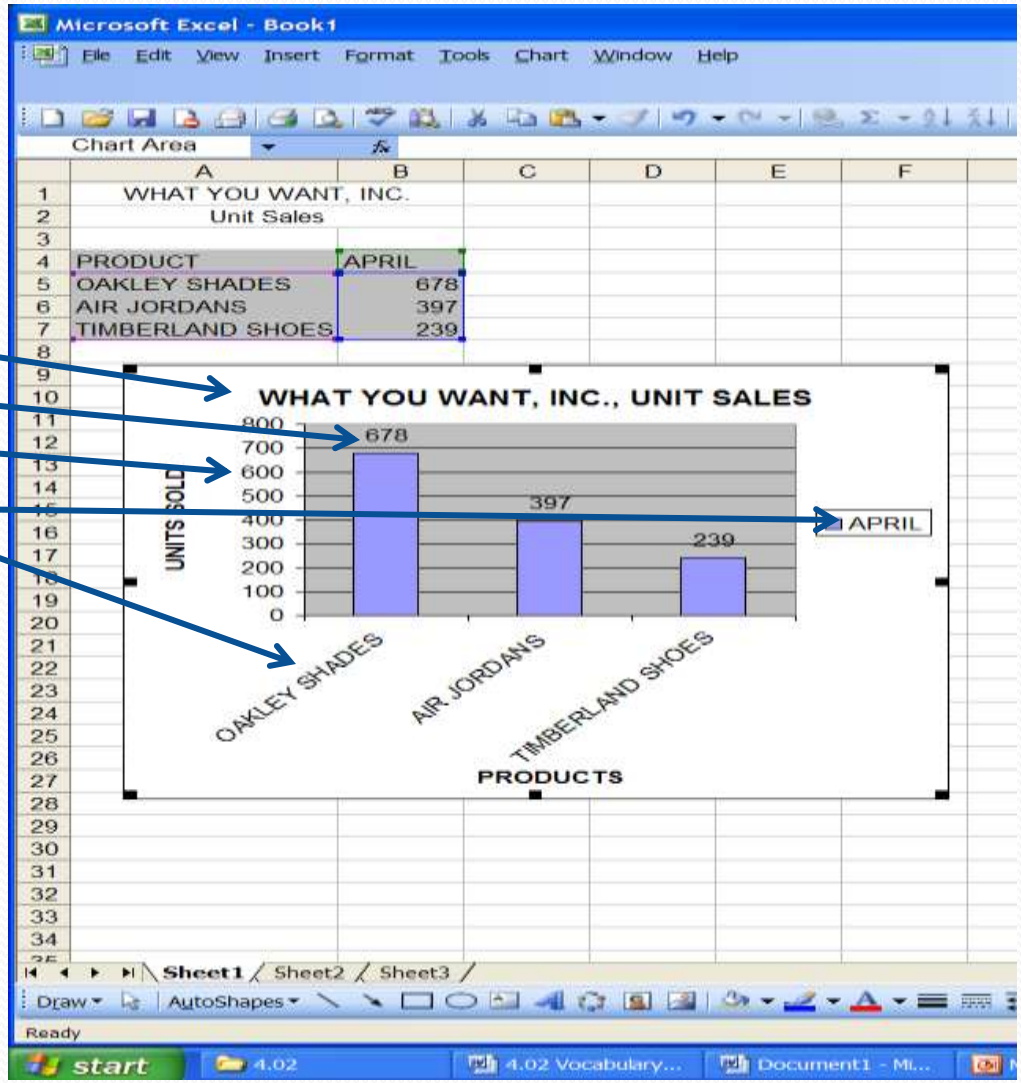
- **A graph is used in a chart .**

Is it a **Chart** or a **Graph**?

A Chart is the total package that includes:

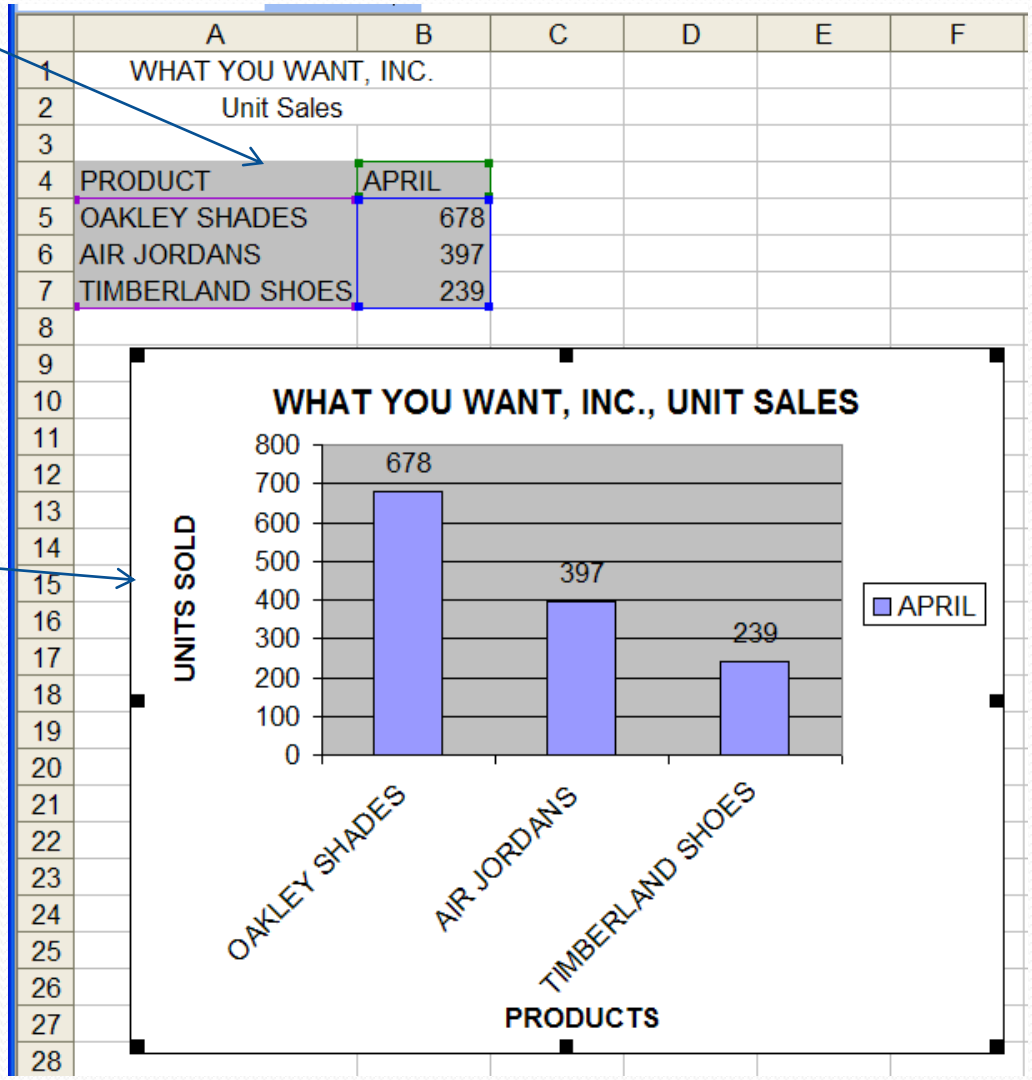
- **titles**
- **values**
- **axis labels**
- **legend information**
- **color**
- **and adds meaning to the graph**

A Chart is the total package. It is an enhancement of a graph.



Whereas **spreadsheet data** is often filled with numbers, labels, and values that require time-consuming analysis. . . .

a **chart** emphasizes and categories the spreadsheet information into a format that can be quickly and easily analyzed.



A chart is to a spreadsheet as a picture is to a thousand words!

Examples of Uses for Charts in Business

- Represent **sales trends** **within different departments** of a store
- Represent the **contribution of individual employee sales** **to the total** **sales** for a company
- Represent the **percent** **of each expense to total expenses**
- **Analyze** stock prices and **explain the fluctuations** to stockholders

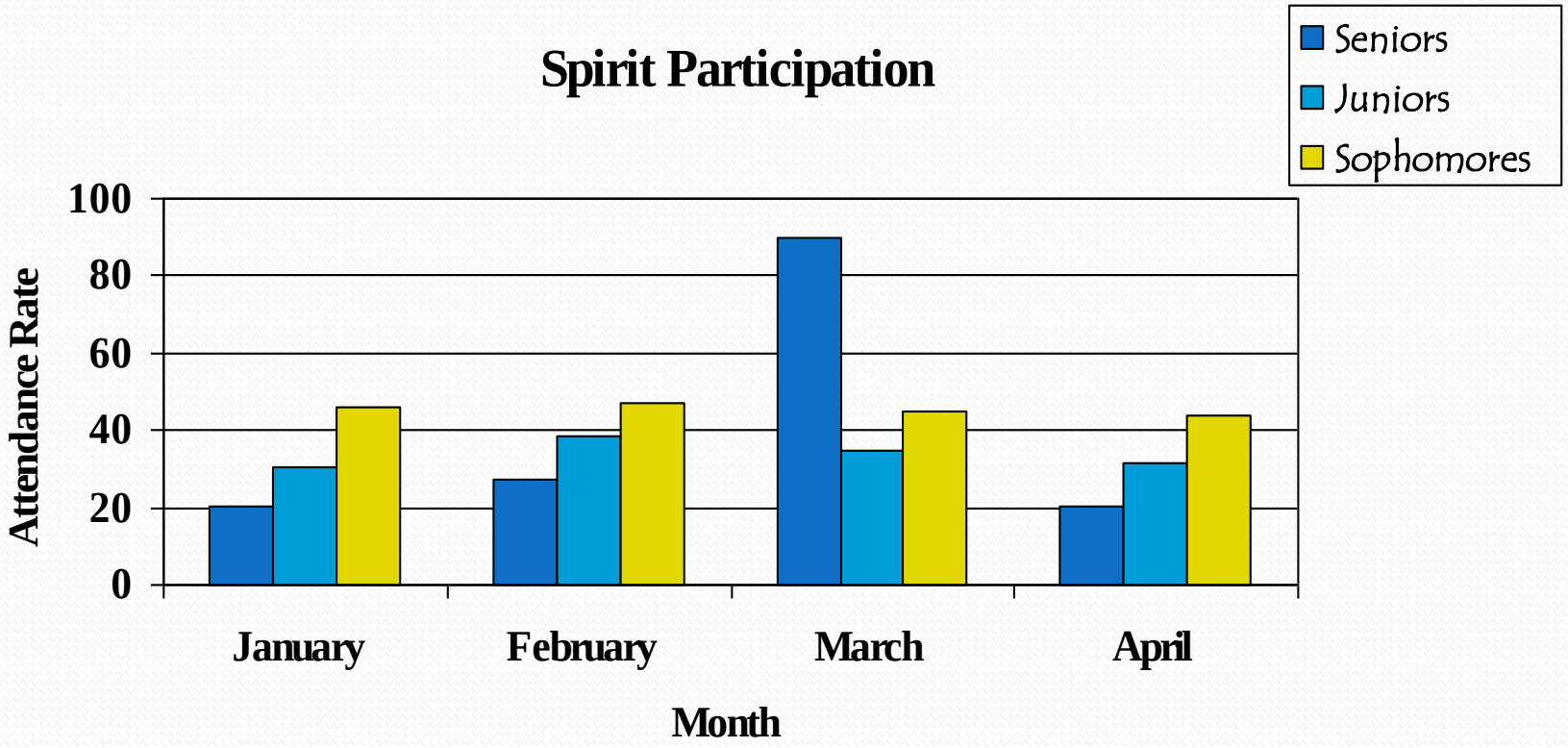
6 Common types of charts

- Column Chart
- Stacked Bar Chart
- Line Chart
- XY Scatter Chart
- Pie Chart
- Exploded Pie Chart

Column Chart

- Description:
  - Series of vertical columns each representative of a data series
- Best Used For:
  - Making comparisons and generalizations about groups of data, such as the attendance of each group of upperclassmen at assemblies

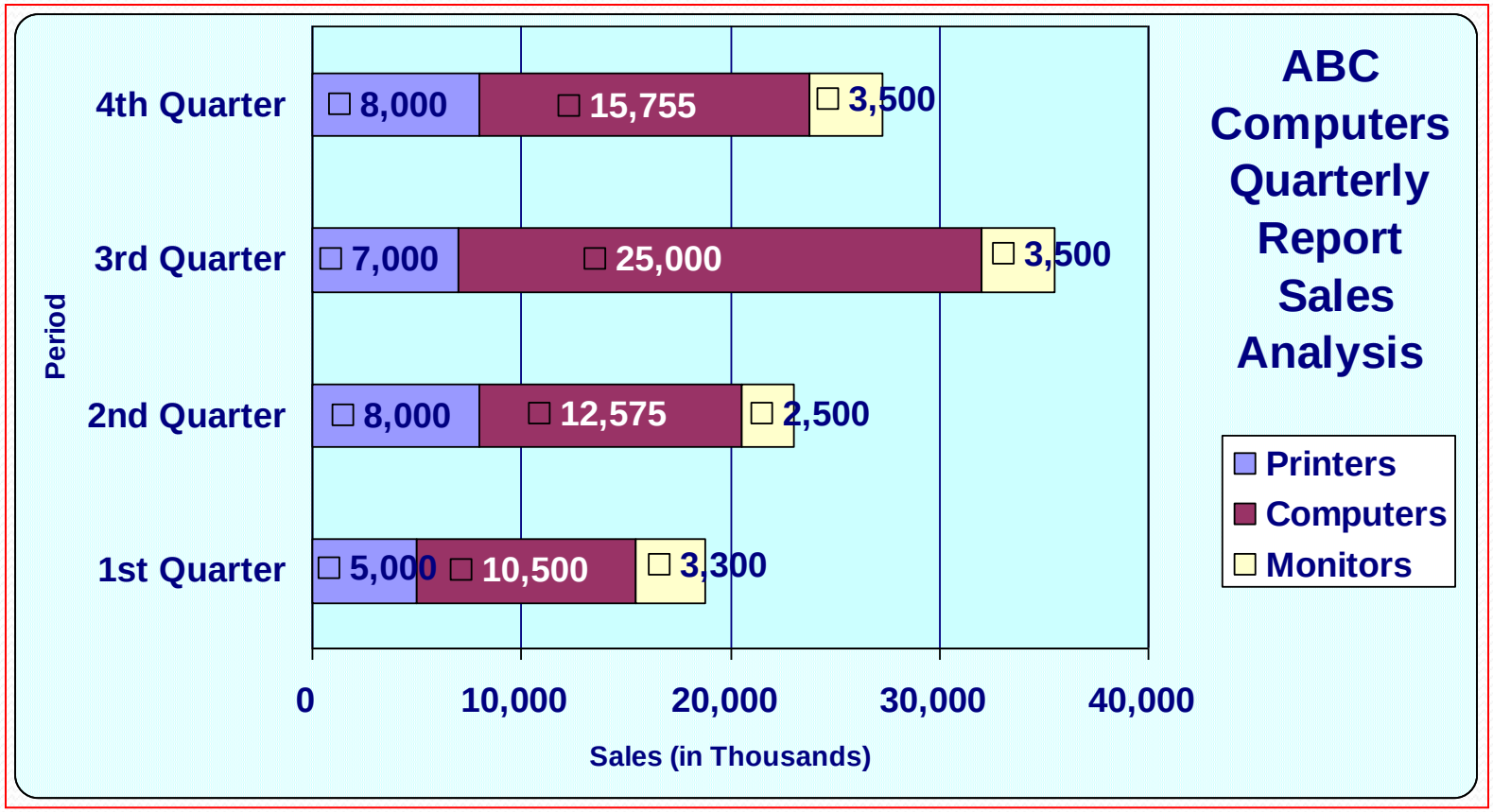
Column Chart Example



Stacked Bar

- Description:
  - Series of horizontal or vertical bars that are each divided into two or more parts
  - Each bar represents the contributions of one data group to the whole
- Best Used For:
  - Comparing the contribution of individual items to the whole, such as the contribution of each department's sales to the total sales for a quarter (3 months)
  - Useful when you have more than one data series

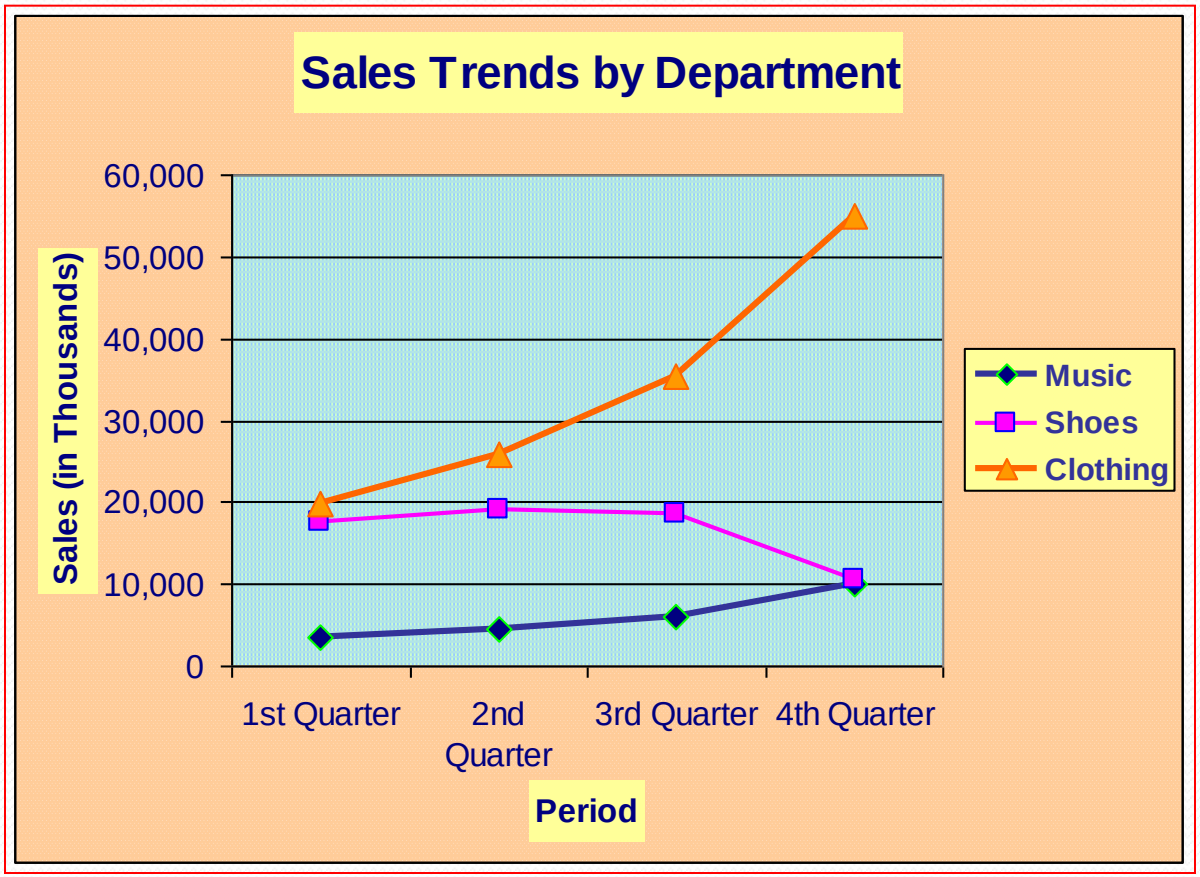
Stacked Bar Example



Line Chart

- Description
  - Series of data points connected by horizontal lines, each representing a series of data
- Best Used for:
  - Comparing trends, such as the trends in sales of three departments in a store, over a period of time

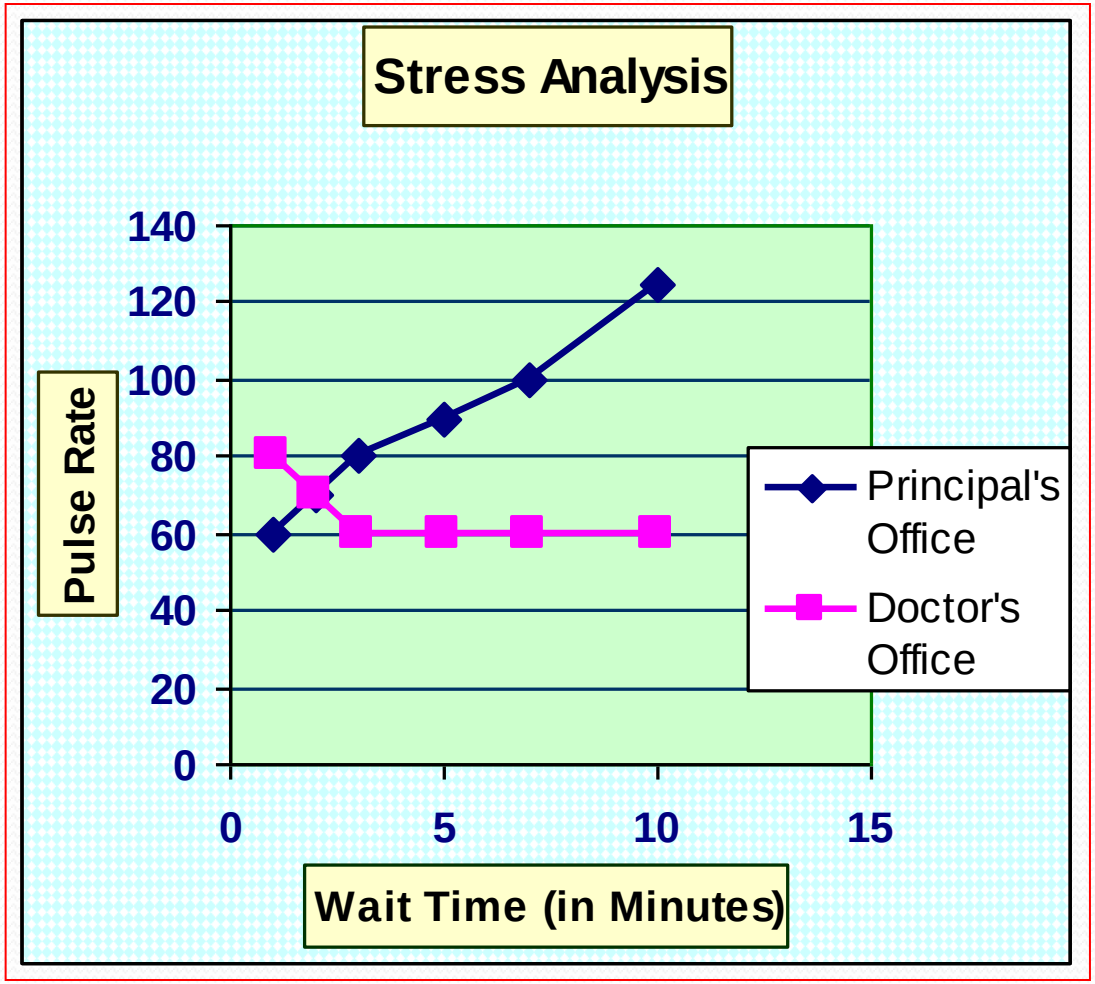
Line Chart Example



XY Scatter

- Description:
  - Series of data points connected by horizontal lines, each representing a series of data
- Best Used For:
  - Analyzing statistical or scientific data, such as determine a correlation between stressors and pulse rate; the effect of one on the other

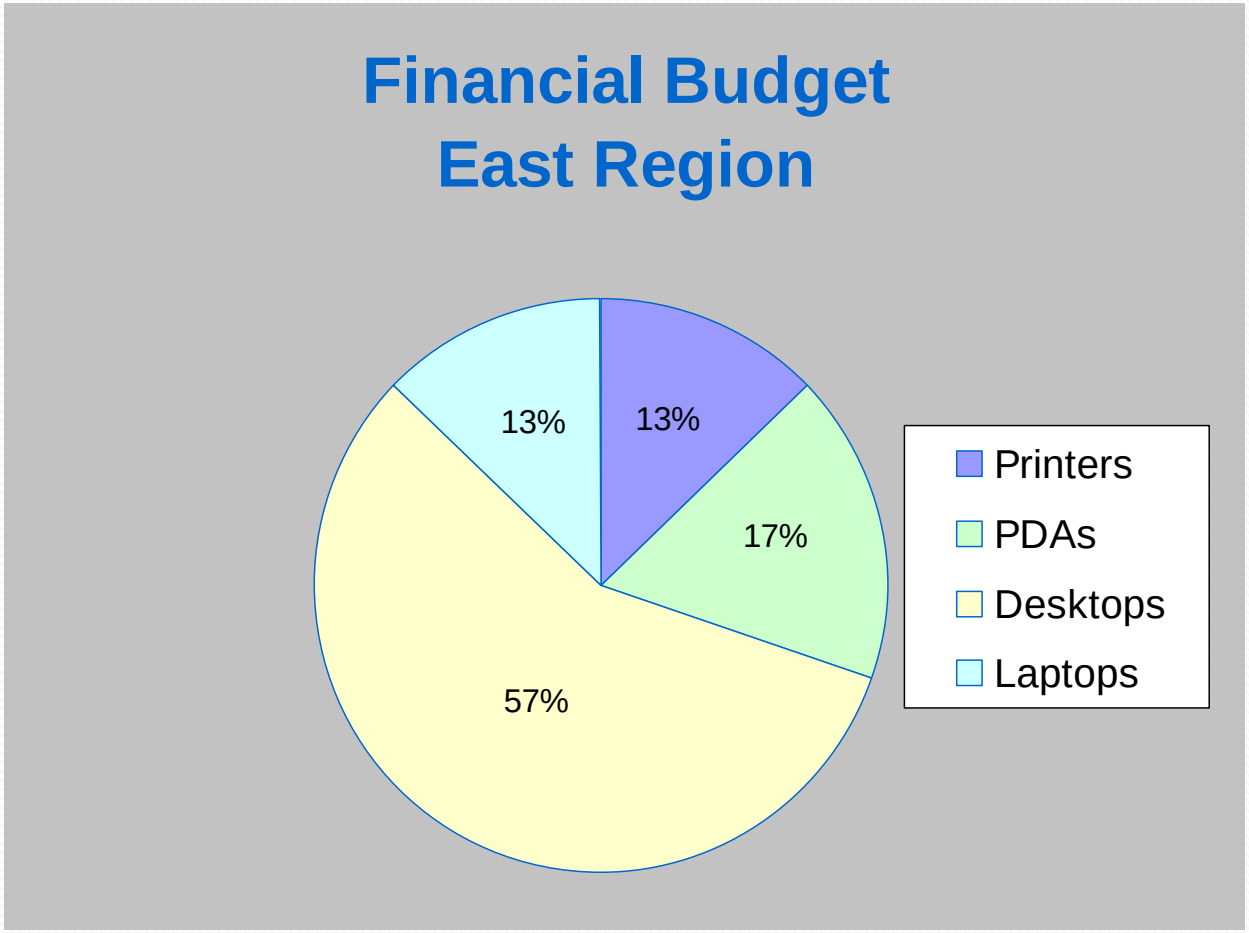
XY Scatter Example



Pie Chart

- Description:
  - Represents only one data series
- Best Used For:
  - Indicating the relationship of one component or data element to the whole, such as the percentage of sales contributions of printers, PDAs, and desktops to the total sales for one time period (one month, one quarter or year)
  - Can only be used with one data series

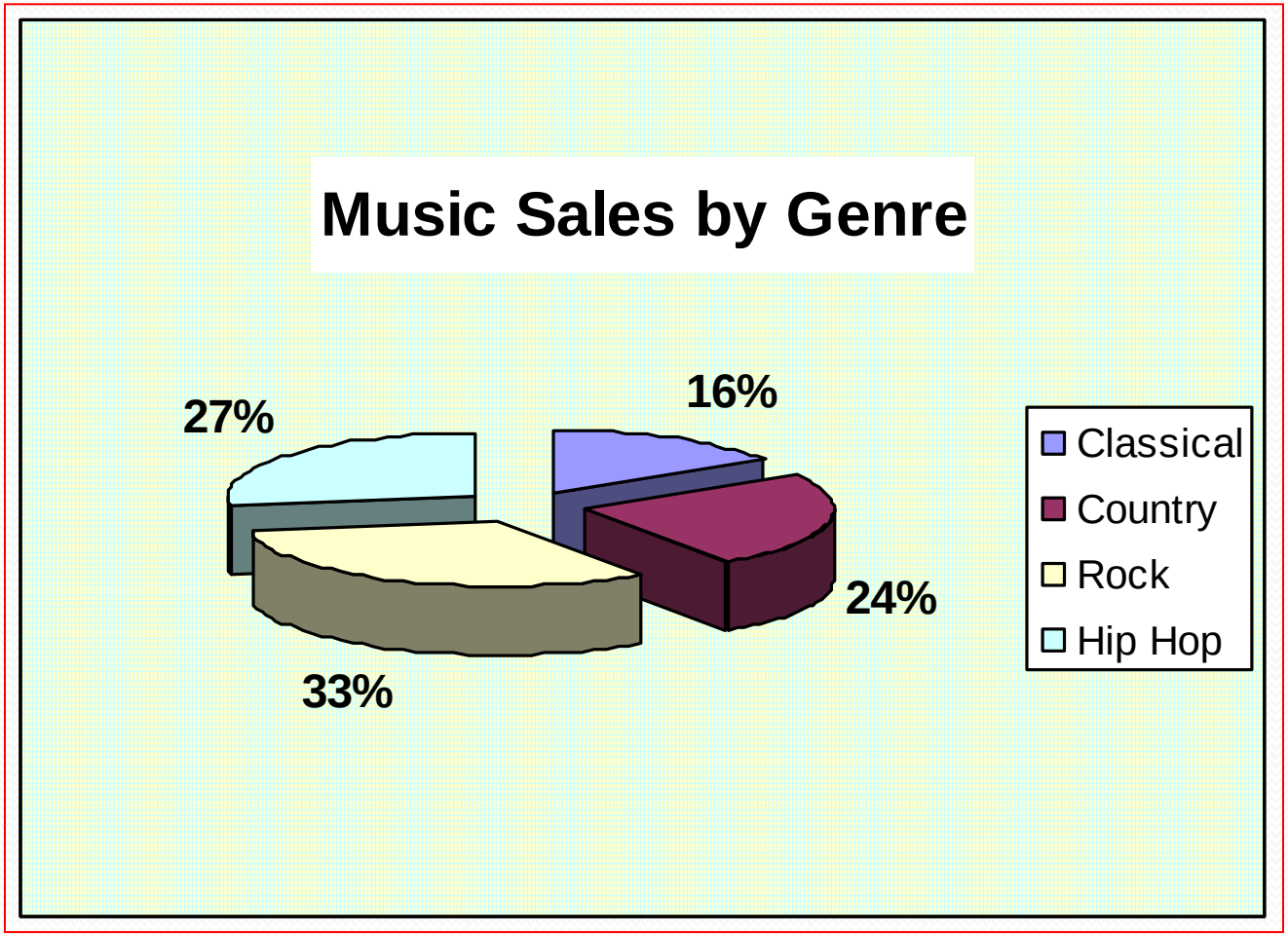
Pie Chart Example



Exploded Pie

- Description:
  - An enhanced version of the pie chart
- Best Used For:
  - Emphasizing one or more portions of data

Exploded Pie Example



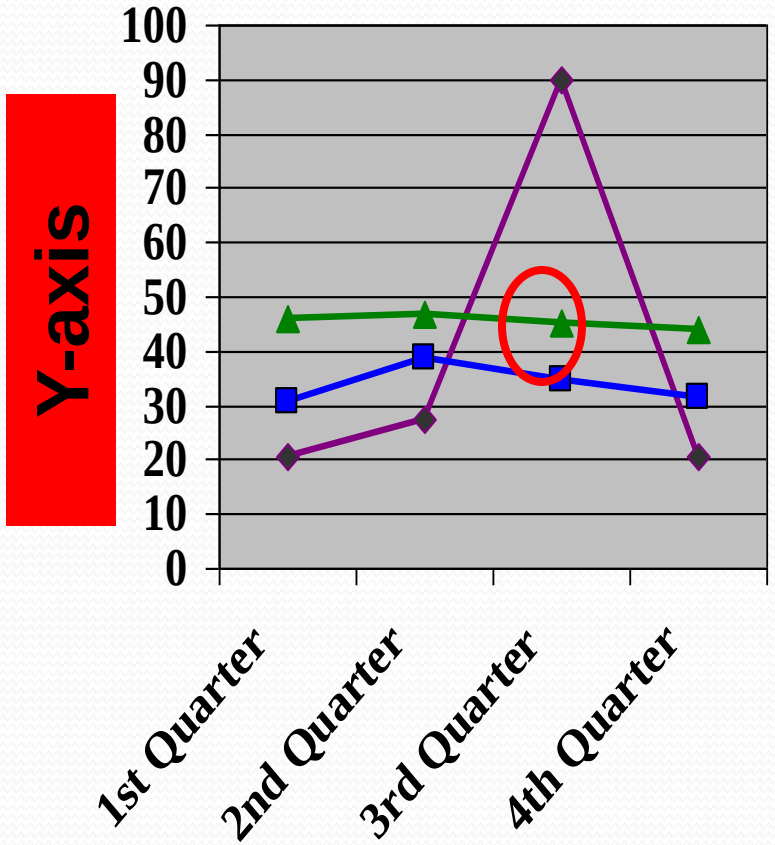
Components of Graphs and Charts

Components of Graphs

1. Y-axis
2. X-axis
3. Data markers
4. Data series
5. Gridline
6. Plot area
7. Tick mark

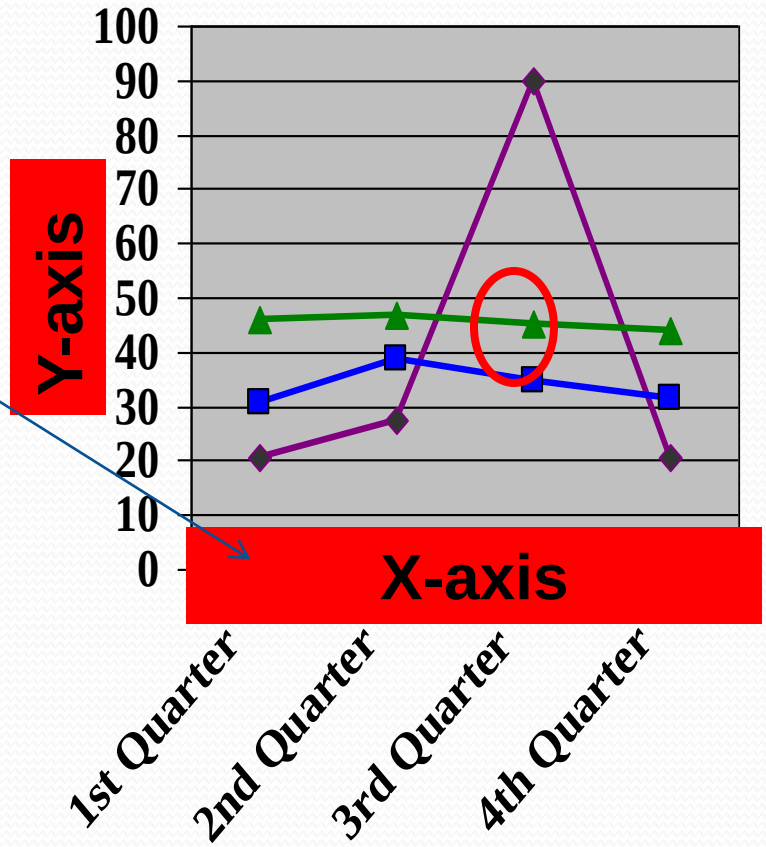
Y-axis

- The **Y- axis** is the **left vertical side** of the graph.
- It contains the **numerical** data.



X-axis

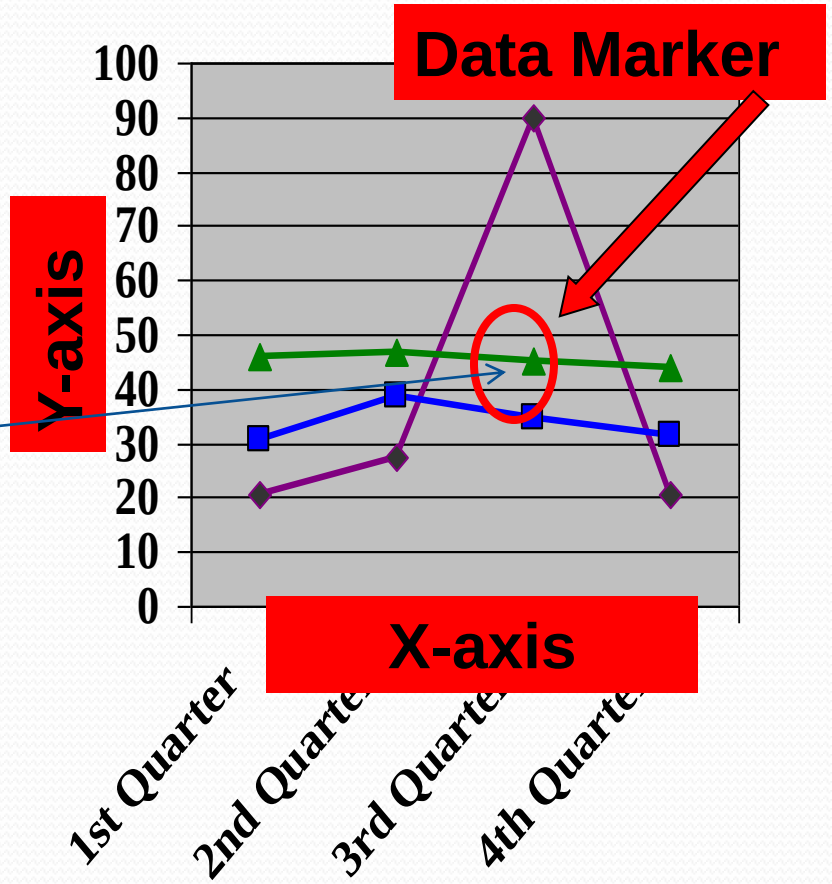
- The **X- axis** is the **bottom horizontal side** of the graph.
- It contains the **category** information.



Data Markers

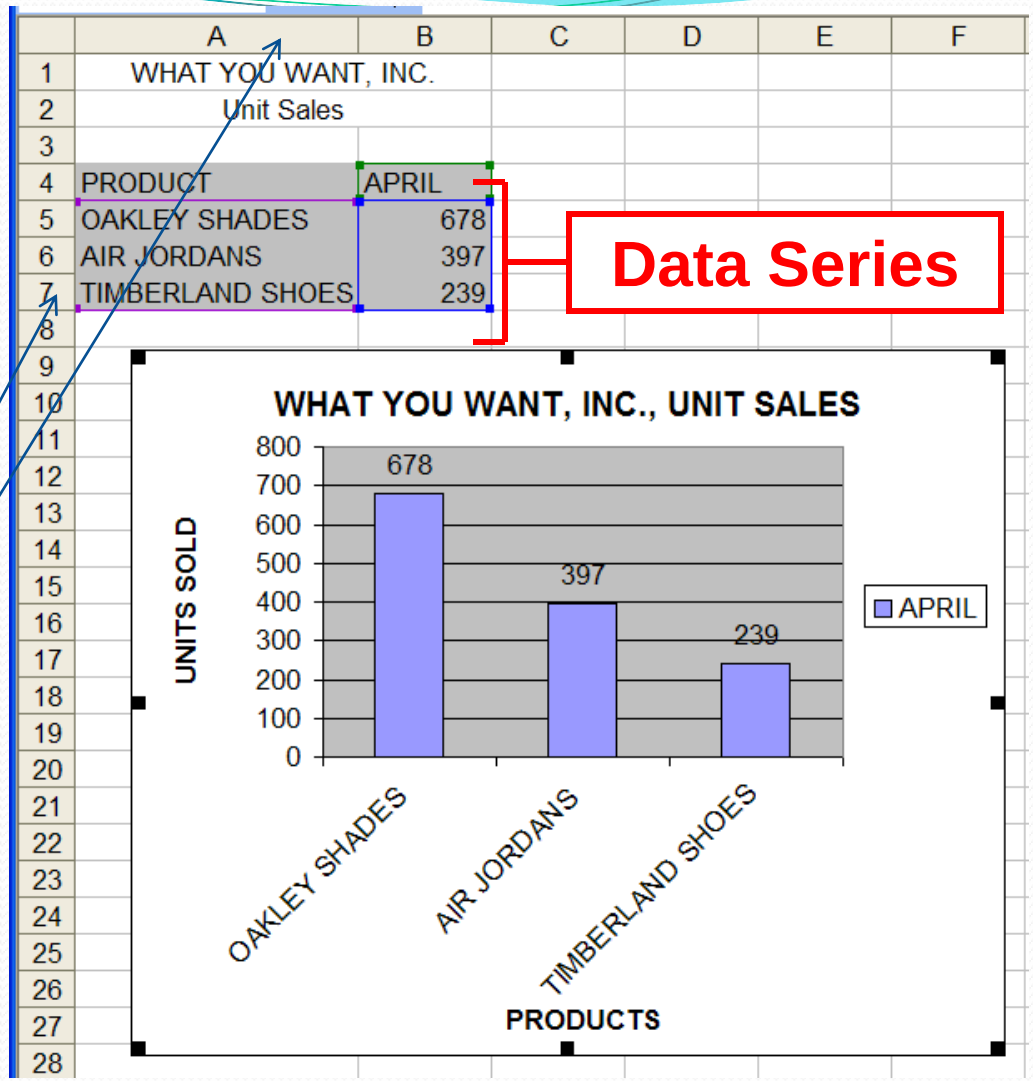
- **Data Markers** are used in a graph to indicate **data values.**
  - **Remember:**

    Data Markers must represent **values!**



Data Series

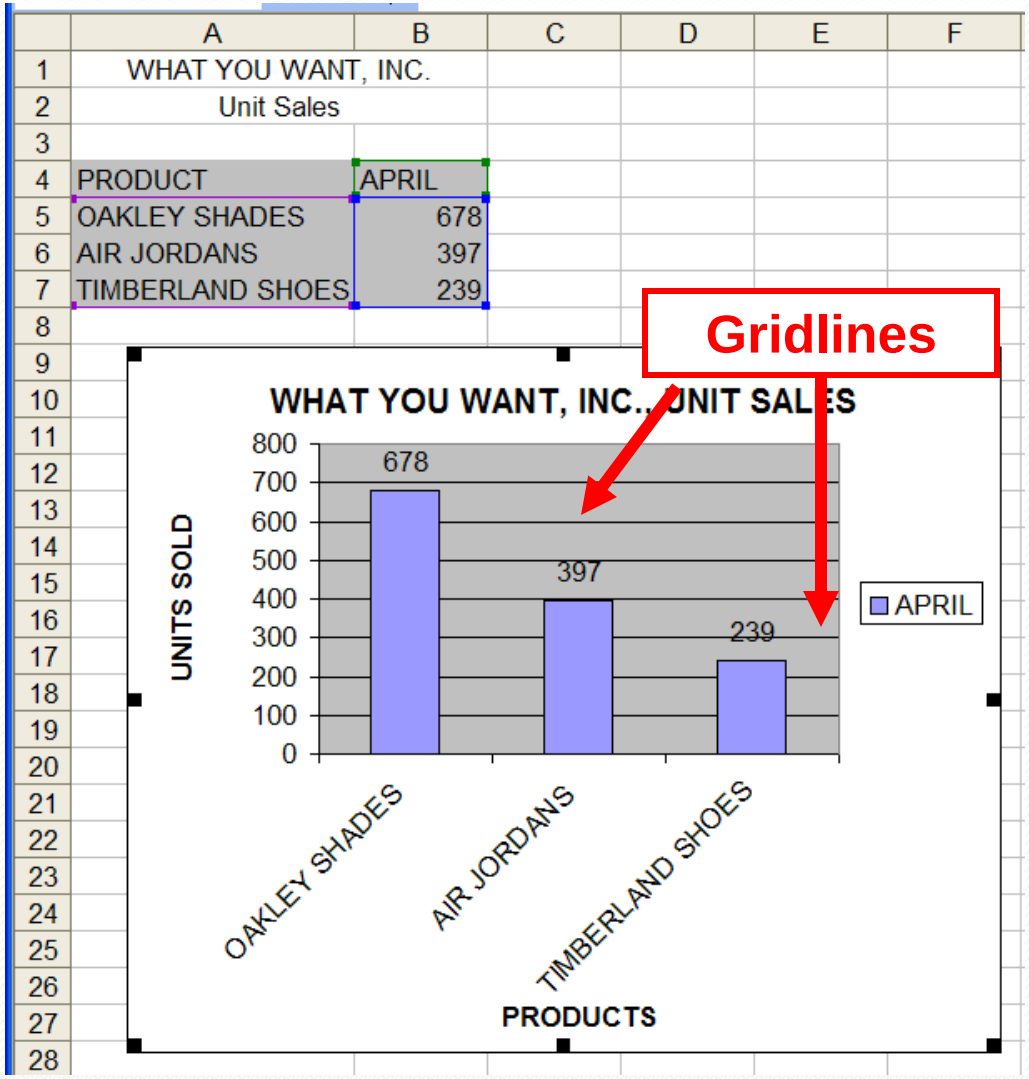
A **Data Series** is a collection of **related values,** such as **one row** or **one column** from a **spreadsheet**.



Gridline

A **Gridline** is a **horizontal** or **vertical line** that extends **across the plot area** of the graph **for the purpose of adding clarification to the data.**

- **Gridlines** make it easier to read and understand the values.



Example

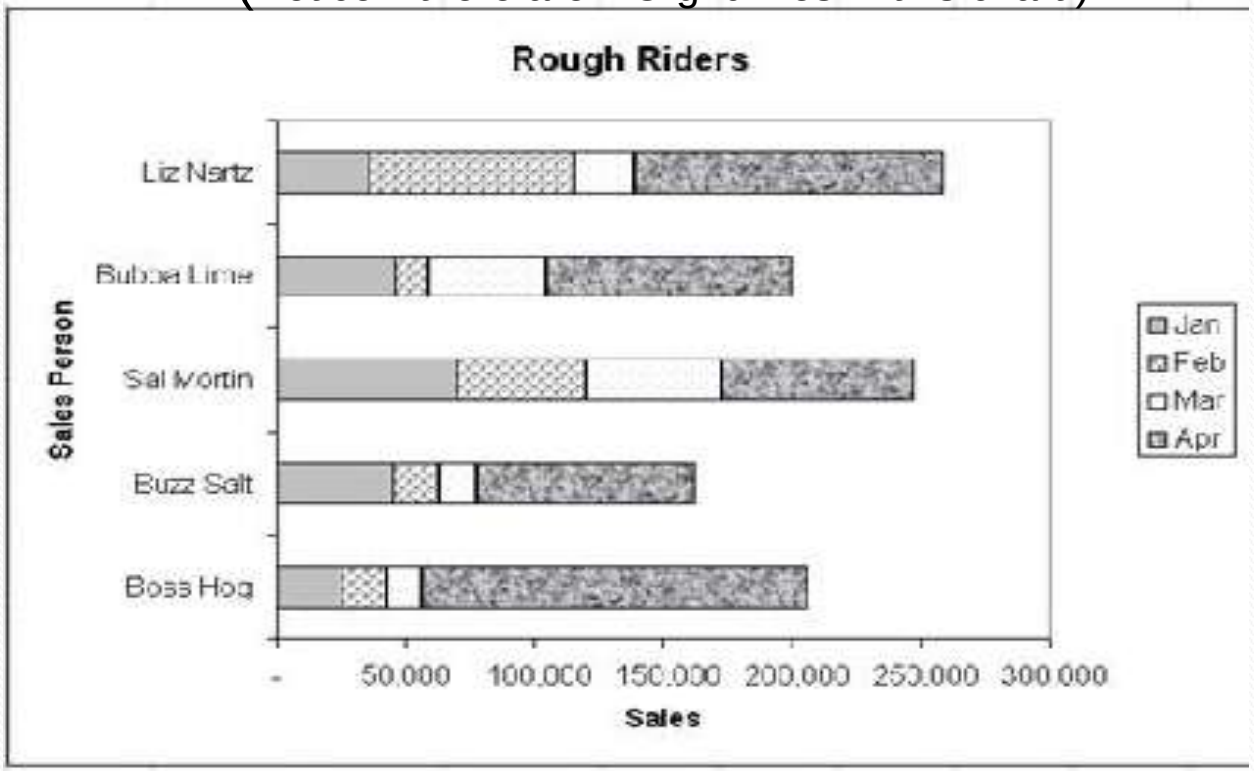
Scenario: This **Stacked Bar Chart** shows the Total Sales of each employee over a 4-month period.

Question: What would make it easier to read?

Answer: Gridlines

Gridlines would make it much easier to read and understand the values.

(Notice—there are NO gridlines in this chart!)



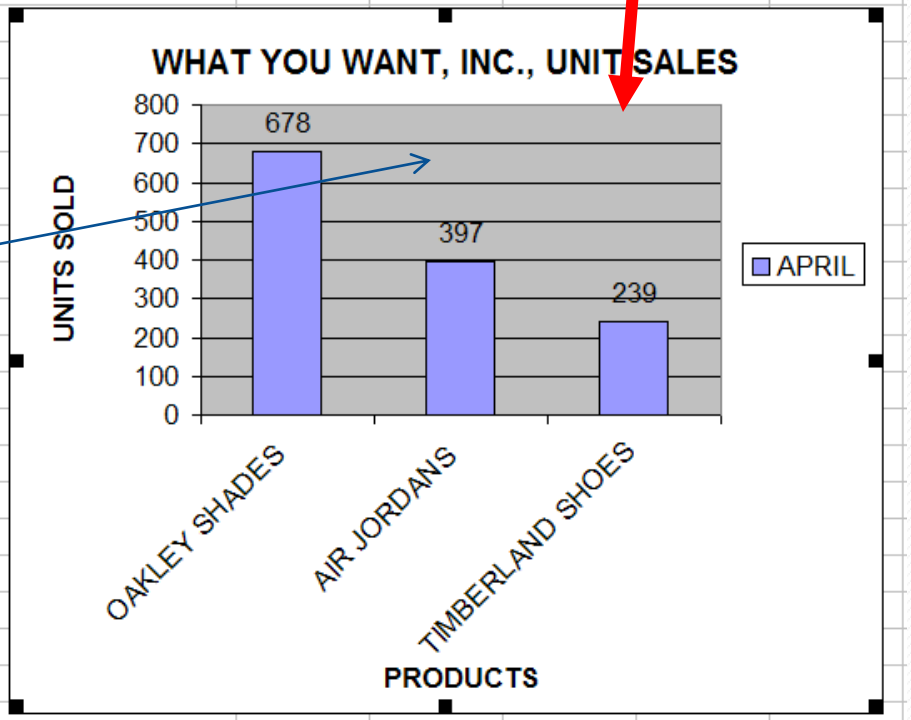
Plot Area

The **Plot Area** is the **background** portion of a graph.

It is the rectangular **area bound** by the **category (X)** and **values (Y) axes**.

	A	B
1	WHAT YOU WANT, INC.	
2	Unit Sales	
3		
4	PRODUCT	APRIL
5	OAKLEY SHADES	678
6	AIR JORDANS	397
7	TIMBERLAND SHOES	239

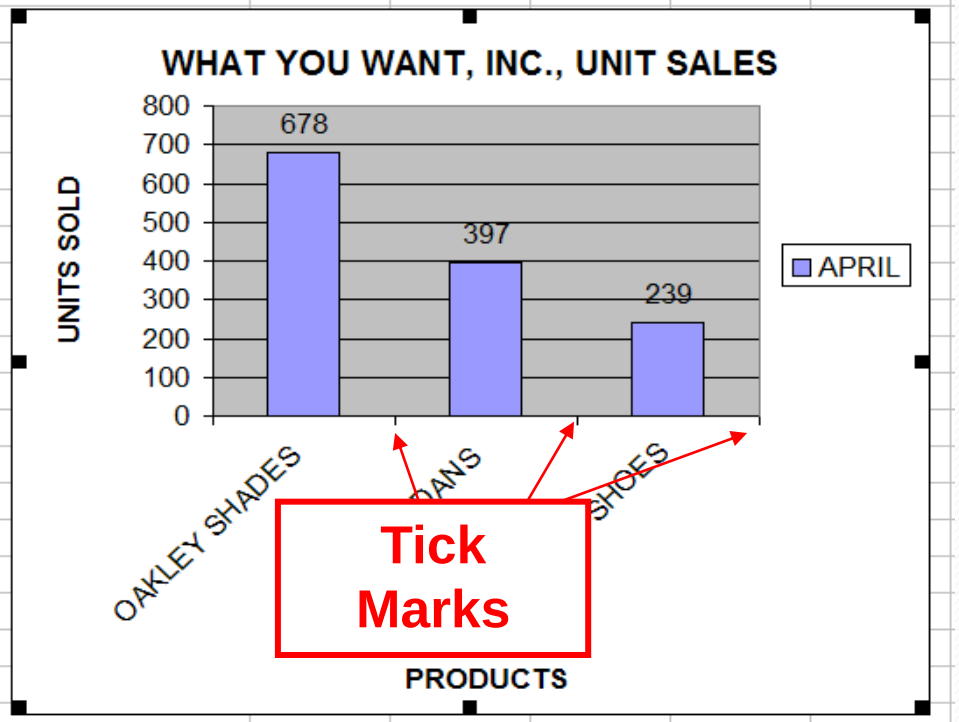
Plot Area
(the gray area shown in this graph)



Tick Mark

The **Tick Mark** is used in a graph to **clarify the data categories or values.**

	A	B
1	WHAT YOU WANT, INC.	
2	Unit Sales	
3		
4	PRODUCT	APRIL
5	OAKLEY SHADES	678
6	AIR JORDANS	397
7	TIMBERLAND SHOES	239

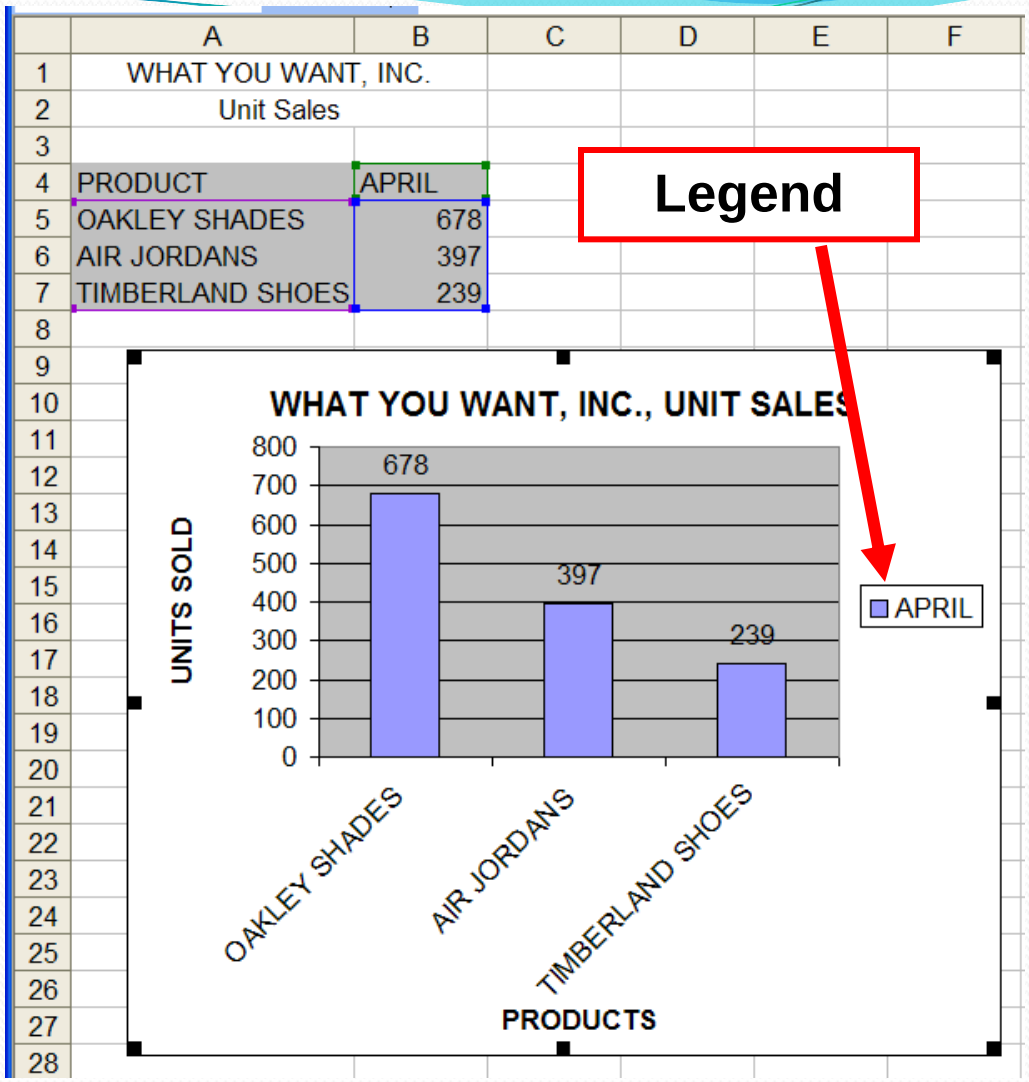


Components of Charts

8. Legend
9. Data Label
10. Chart Title
11. X-Axis Title
12. Y-Axis Title

Legend

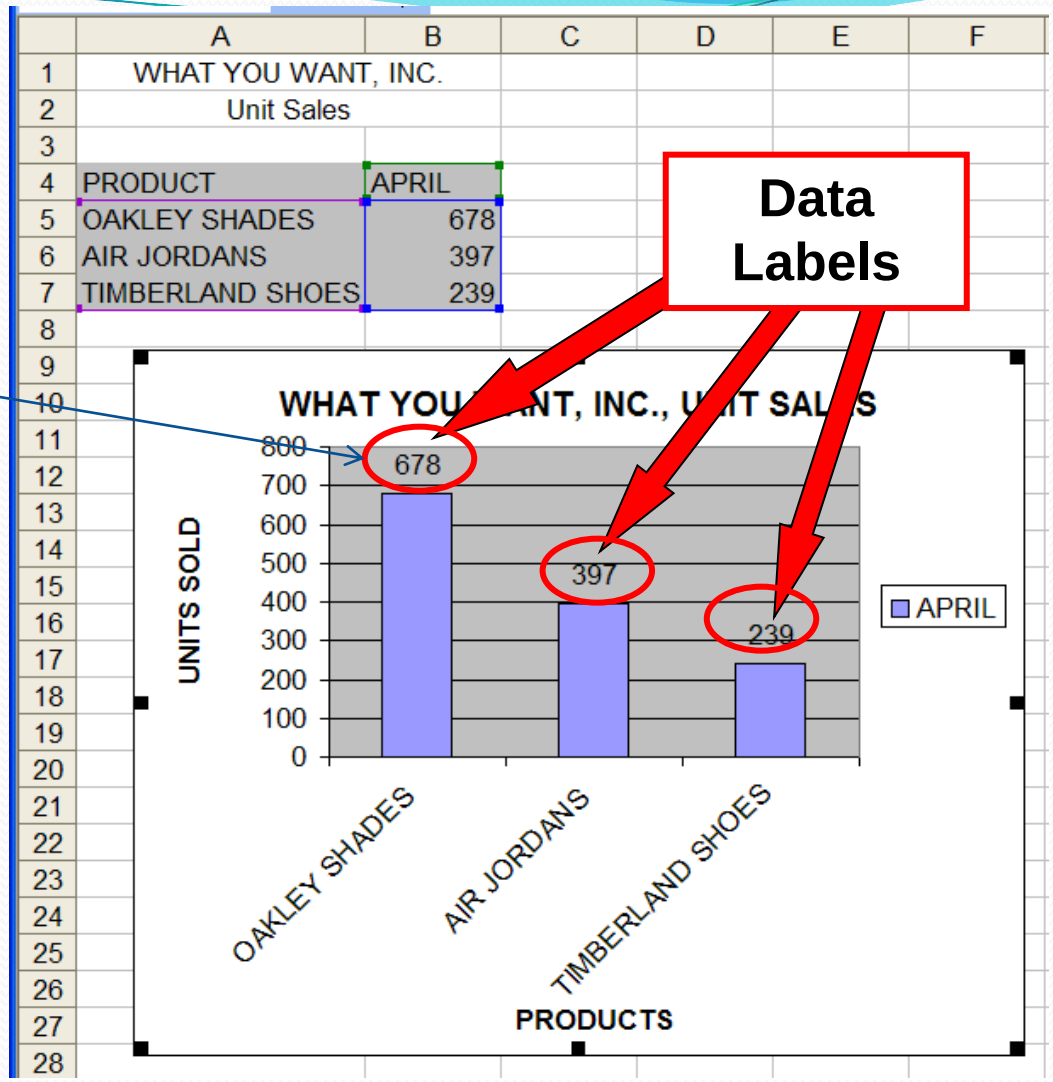
The **Legend** is an **object that explains the symbols, colors**, or **patterns used to differentiate the data.**



Data Label

A **Data Label** is a **single value** or **text explanation** used to explain the **data in a series**.

- It is a piece of data from the data series.



Example

Scenario: This **Column Chart** compares the sales of the GY Music Store against the sales of Notes Online.

Question: Which feature is used to indicate the sales amounts in the plot area?

Answer: Data Labels

Data Labels are used to explain the data in the series.

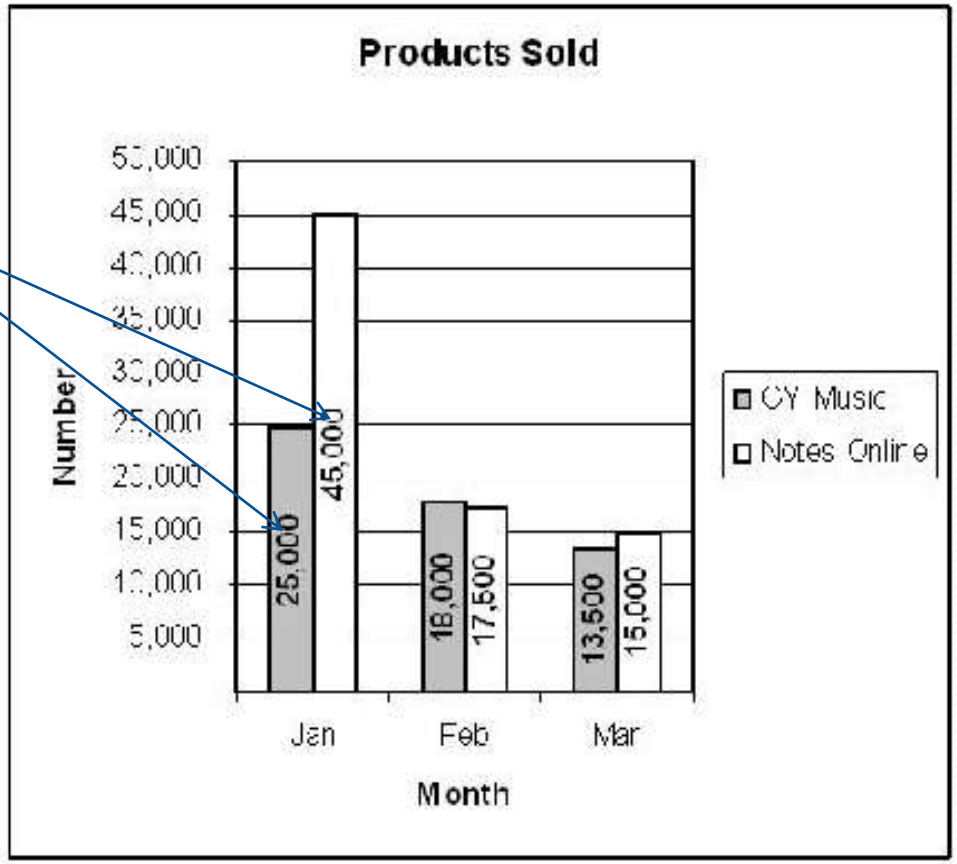
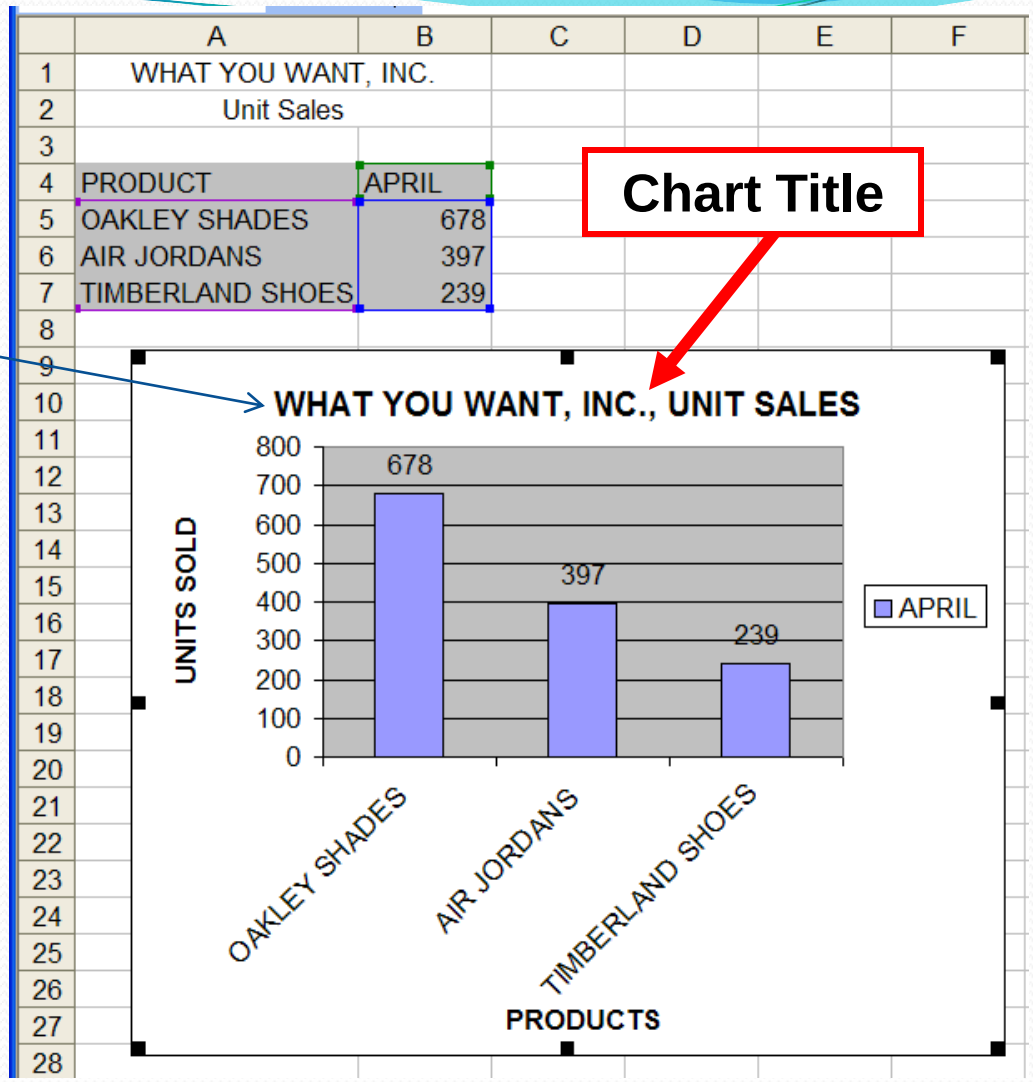


Chart Title

The **Chart Title** is the **main heading**, which **describes the purpose and content of the chart.**



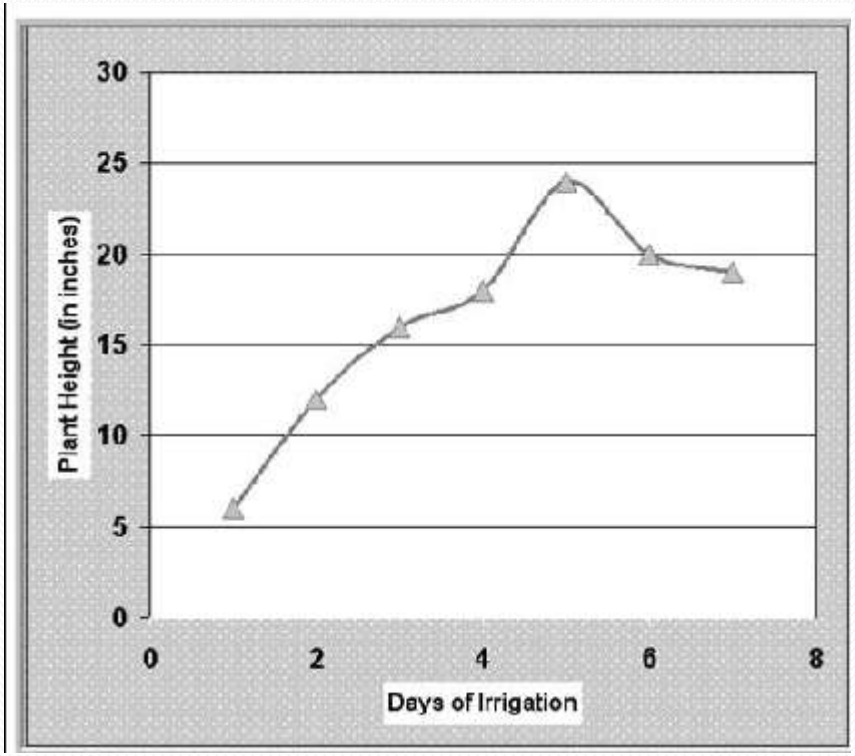
Example

Scenario: This **Line Chart** represents the effect of irrigation on plant height.

Question: What feature should be added to explain the chart's purpose?

Answer: Chart Title

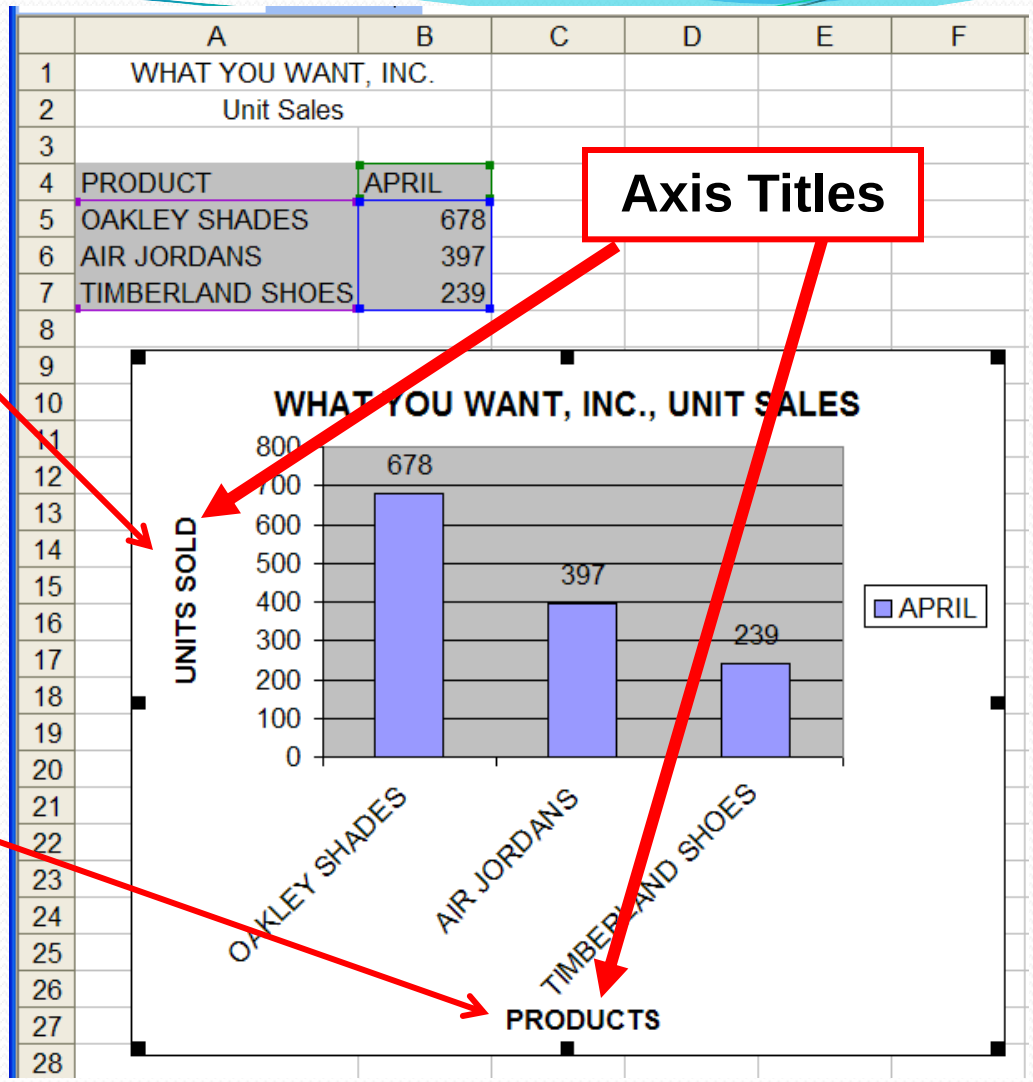
The Chart Title is the Main Heading that describes the purpose and content of the chart.



Axis Titles

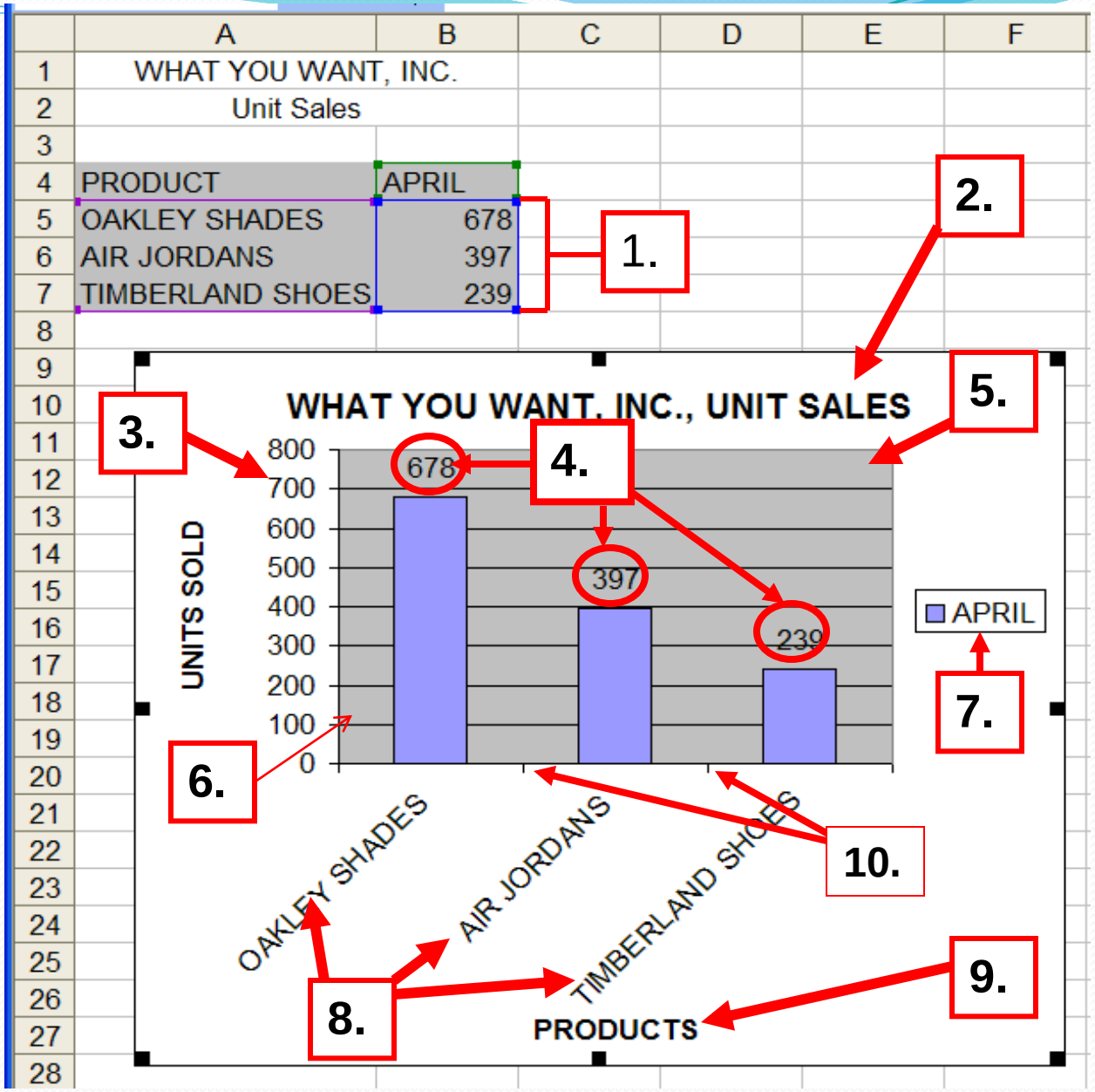
The **Y-axis Title:** describes the **Y-axis**, which is the **vertical data.**

The **X-axis Title** describes the **X-axis**, which is the **horizontal data.**



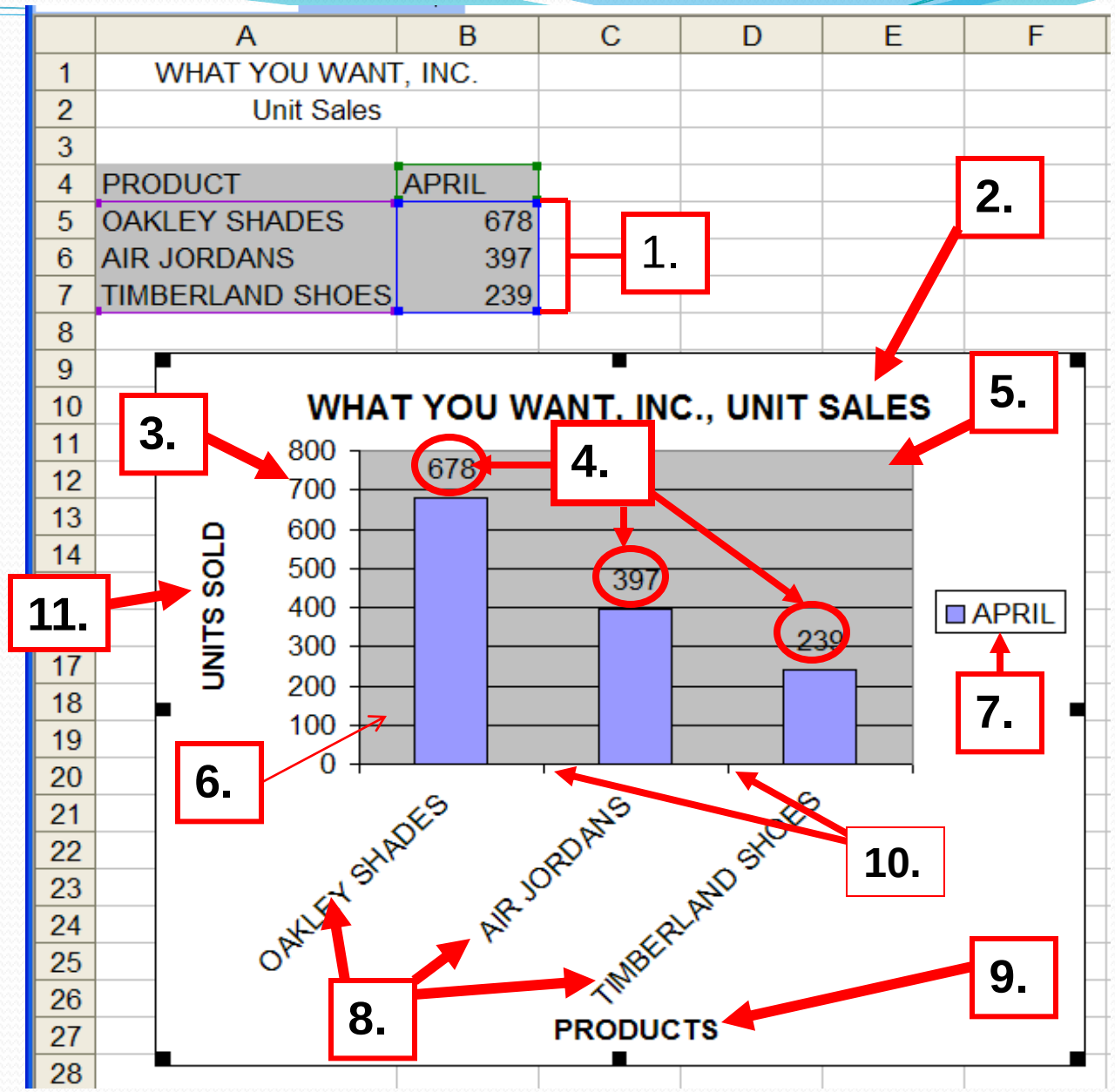
Now it's your turn!

See if you can identify all of the components and describe their functions.



How did you do?

1. Data Series
2. Chart Title
3. Y-axis Labels
4. Data Labels
5. Plot Area
6. Gridline
7. Legend
8. X-axis Labels
9. X-axis Title
10. Tick Marks
11. Y-axis Label



Embedded, Separate and Linked Charts

Embedded and Separate Chart

1. An **Embedded chart** is one that appears on the same sheet as the spreadsheet/worksheet it represents.
2. A **Separate chart** is one that **does not** appear on the same sheet as the spreadsheet/worksheet it represents.

Linked Chart

3. A **Linked chart** is one that **will change to reflect changes** made to the spreadsheet it represents.